This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1. (Original) A deployment device for deploying a conduit into an intervertebral disc, the deployment device comprising:

a sheath,

a conduit sized and configured to fit at least partially within said sheath, and

a plunger to deploy said conduit.

2. (Original) The deployment device of claim 1, wherein said sheath has a beveled tip.

3. (Original) The deployment device of claim 1, further comprising a needle located at least partially within said sheath.

4. (Original) The deployment device of claim 3, wherein said conduit is located at least partially within said needle.

5. (Original) The deployment device of claim 3, wherein said conduit is located at least partially around said needle.

6. (Original) The deployment device of claim 1, further comprising a coating on said tubular sheath.

7. (Original) The deployment device of claim 6, wherein the coating is chosen from the group of coatings consisting of lubricant, tissue sealant, analgesic, antibiotic, radiopaque, magnetic and echogenic agents.

8. (Original) The deployment device of claim 1, wherein said conduit is a tube formed of a biocompatible material.

9. (Original) The deployment device of claim 1, wherein said conduit is a multi-filament formed of a biocompatible material.

10. (Original) The deployment device of claim 1, wherein said conduit is a sponge formed of a biocompatible material.

11. (Original) The deployment device of claim 1, wherein said conduit has a plurality of protrusions extending therefrom.

12. (Original) The deployment device of claim 11, wherein said protrusions are chosen from the group consisting of flanges, knots and rings.

13. (Original) The deployment device of claim 1, wherein said conduit is formed of a multi-filament portion and a mono-filament portion.

14. (Original) The deployment device of claim 1, wherein said conduit is formed of a biodegradable material.

15. (Original) The deployment device of claim 1, wherein said conduit is formed of a non-degradable material.

16. (Original) The deployment device of claim 1, wherein said conduit is formed of a non-degradable material chosen from the group of materials consisting of polytetrafluoroethylene, polypropylene, polyethylene, polyamide, polyester, polyurethane, silicon, poly-ether-ether-ketone, acetal resin, polysulfone, polycarbonate, silk, cotton, linen, fiberglass, nickel-titanium alloy and stainless steel.

17. (Original) The deployment device of claim 1, wherein said conduit is formed of a degradable material chosen from the group of materials consisting of polylactate, polyglycolic, poly-lactide-co-glycolide, polycaprolactone, trimethylene carbonate, silk, catgut, collagen, poly-p-dioxanone, polydioxanone, polyanhydride, trimethylene carbonate, poly-beta-hydroxybutyrate,

polyhydroxyvalerate, poly-gama-ethyl-glutamate, poly-DTH-iminocarbonate, poly-bisphenol-A-iminocarbonate, poly-ortho-ester, polycyanoacrylate
and polyphosphazene.

18. (Original) The deployment device of claim 1, wherein said conduit has a coating chosen from the group of coatings consisting of antibiotic, anti-occlusive coating, lubricant, growth factor, nutrient, sulfate, mineral, buffering agent, sodium carbonate, sodium bicarbonate, alkaline, collagen, hydroxyapatite, analgesic, sealant, humectant, hyaluronate, proteoglycan, chondroitin sulfate, keratan sulfate, glycosamino-glycans, heparin, starch, stiffening agent, radiopaque coating, echogenic coating, gene, cells and stem cells.

19. (Original) The deployment device of claim 1, wherein said conduit has a pore size of 200 microns to 10 nanometers.

20. (Original) The deployment device of claim 1, wherein said conduit has channels therethrough, said channels having a diameter of 200 microns to 10 nanometers.

21. (Original) The deployment device of claim 1, further comprising a tube located around a central portion of said conduit.

22. (Original) The deployment device of claim 21, wherein said tube is formed of a material chosen from the group of materials consisting of polytetrafluoroethylene, polypropylene, polyethylene, polyamide, polyester, polyurethane, silicon, poly-ether-ether-ketone, acetal resin, polysulfone, polycarbonate and polyethylene glycol.

23. (Original) The conduit of claim 1, wherein at least a portion of said conduit is coated with fibrous tissue inhibitor.

24. (Original) A deployment device for deploying a conduit into an intervertebral disc, the deployment device comprising:

a tubular sheath,

a first elastic needle having a straightened position and a curved position, said straightened position being elastically straightened within said tubular sheath, and said curved position being elastically curved and located at least partially outside said tubular sheath,

an actuator to moved said first elastic needle between said straightened position and said curved position, and

a conduit sized and configured to fit at least partially within said tubular sheath.

25. (Original) The deployment device of claim 24, wherein said first elastic needle has a beveled tip.

26. (Original) The deployment device of claim 25, wherein a point of said beveled tip is located on a concave side of said first elastic needle, when said first elastic needle is in said curved position.

27. (Original) The deployment device of claim 24, wherein said tubular sheath has a sharp tip.

28. (Original) The deployment device of claim 27, wherein said sharp tip is oriented on a convex side of said first elastic needle, when said first elastic needle is in said curved position.

29. (Original) The deployment device of claim 24, wherein said tubular sheath and said first elastic needle have non-round cross sections.

30. (Original) The deployment device of claim 29, wherein said tubular sheath and said first elastic needle have similar cross-sectional shapes.

31. (Original) The deployment device of claim 24, wherein said tubular sheath and said first elastic needle have oval cross sections.

32. (Original) The deployment device of claim 24, further comprising a second elastic needle, said second elastic needle located at least partially around said first elastic needle.

33. (Original) The deployment device of claim 32, wherein said first and second elastic needles have similar curvatures and said curvatures are oriented in similar directions.

34. (Original) The deployment device of claim 24, further comprising an opening extending through a wall of said tubular sheath proximate a distal end thereof.

35. (Original) The deployment device of claim 24, wherein said tubular sheath has a ramp located therein.

36. (Original) The deployment device of claim 35, wherein said ramp is located proximate a distal end of said tubular sheath and located proximate a convex side of said first elastic needle.

37. (Original) The deployment device of claim 24, wherein said first elastic needle is formed of nickel-titanium alloy.

38. (Original) The deployment device of claim 24, wherein said first elastic needle has a non-uniform cross-section.

39. (Original) The deployment device of claim 38, wherein said first elastic needle has a distal end and a proximal end, said distal end being smaller than said proximal end.

40. (Original) The deployment device of claim 24, further comprising a plunger for deploying said conduit.

41. (Original) The deployment device of claim 24, further comprising a coating on said tubular sheath.

42. (Original) The deployment device of claim 41, wherein the coating is chosen from the group of coatings consisting of lubricant, tissue sealant, analgesic, antibiotic, radiopaque, magnetic and echogenic agents.

43. (Original) The deployment device of claim 24, further comprising a coating on said first elastic needle.

44. (Original) The deployment device of claim 43, wherein the coating is chosen from the group of coatings consisting of lubricant, tissue sealant, analgesic, antibiotic, radiopaque, magnetic and echogenic agents.

45. (Original) The deployment device of claim 24, wherein said conduit is a tube formed of a biocompatible material.

46. (Original) The deployment device of claim 24, wherein said conduit is a multi-filament formed of a biocompatible material.

47. (Original) The deployment device of claim 24, wherein said conduit is a sponge formed of a biocompatible material.

48. (Original) The deployment device of claim 24, wherein said conduit has a plurality of protrusions extending therefrom.

49. (Original) The deployment device of claim 24, wherein said conduit is formed of a multi-filament portion and a mono-filament portion.

50. (Original) The deployment device of claim 24, wherein said conduit is located within said first elastic needle.

51. (Original) The deployment device of claim 24, wherein said conduit is located at least partially around said first elastic needle.

52. (Original) The deployment device of claim 24, wherein said conduit has a coating chosen from the group of coatings consisting of antibiotic, anti-occlusive coating, lubricant, growth

factor, nutrient, sulfate, mineral, buffering agent, sodium carbonate, sodium bicarbonate, alkaline, collagen, hydroxyapatite, analgesic, sealant, humectant, hyaluronate, proteoglycan, chondroitin sulfate, keratan sulfate, glycosamino-glycans, heparin, starch, stiffening agent, radiopaque coating, echogenic coating, gene, cells and stem cells.

53. (Original) The deployment device of claim 24, wherein said conduit has a pore size of 200 microns to 10 nanometers.

54. (Original) The deployment device of claim 24, wherein said conduit has channels therethrough, said channels having a diameter of 200 microns to 10 nanometers.

55. (Original) The deployment device of claim 24, further comprising a tube located around a central portion of said conduit.

56. CANCEL
57. CANCEL
58. CANCEL
59. CANCEL
60. CANCEL
61. CANCEL
62. CANCEL
63. CANCEL
64. CANCEL
65. CANCEL
66. CANCEL
67. CANCEL
68. CANCEL
69. CANCEL
70. CANCEL
71. CANCEL
72. CANCEL

73. CANCEL

74. CANCEL

75. (Original) A conduit for re-establishing exchange of nutrients and waste between an intervertebral disc and bodily circulation, the conduit comprising:

an elongated member formed of a biocompatible material, said elongated member being locatable such that a first portion of said elongated member is within a patient's nucleus pulposus within the intervertebral disc.

76. (Original) The conduit of claim 75, wherein a second portion of said elongated member is locatable such that said second portion extends through an endplate and into a vertebra.

77. (Original) The conduit of claim 75, wherein said elongated member has a second portion and a central portion, wherein said elongated member is locatable such that said central portion extends through a periphery of the intervertebral disc and said second portion extends outside the intervertebral disc.

78. (Original) The conduit of claim 75, wherein a second portion of said elongated member is locatable such that said second portion extends to an outer annulus of the intervertebral disc.

79. (Original) The conduit of claim 75, wherein said conduit is a tube formed of a biocompatible material.

80. (Original) The conduit of claim 75, wherein said conduit is a multi-filament formed of a biocompatible material.

81. (Original) The conduit of claim 80, wherein said multi-filament is braided.

82. (Original) The conduit of claim 75, wherein said conduit is a sponge formed of a biocompatible material.

83. (Original) The conduit of claim 75, wherein said conduit has a plurality of protrusions extending therefrom.

84. (Original) The conduit of claim 75, wherein said conduit is formed of a multi-filament portion and a mono-filament portion.

85. (Original) The conduit of claim 75, wherein said conduit is formed of a biodegradable material.

86. (Original) The conduit of claim 75, wherein said conduit is formed of a non-degradable material.

87. (Original) The conduit of claim 75, wherein said conduit is porous and has a pore size of 200 microns to 10 nanometers.

88. (Original) The conduit of claim 75, wherein said conduit has channels therethrough, said channels each having a diameter of 200 microns to 10 nanometers.

89. (Original) The conduit of claim 75, further comprising a tube located around a central portion of said conduit.

90. (Original) The conduit of claim 89, wherein said tube is formed of a material chosen from the group of materials consisting of polytetrafluoroethylene, polypropylene, polyethylene, polyamide, polyester, polyurethane, silicon, poly-ether-ether-ketone, acetal resin, polysulfone, polycarbonate and polyethylene glycol.

91. (Original) The conduit of claim 75, wherein at least a portion of said conduit is coated with fibrous tissue inhibitor.

92. (Previously presented) A treatment kit used to provide immunoisolated retention of donor cells within a patient's intervertebral disc:

the conduit of claim 75,

and donor cells injectable into the intervertebral disc.

93. (Previously presented) The treatment kit of claim 92, wherein the donor cells are from a gland.

94. (Previously presented) The treatment kit of claim 92, wherein the donor cells are from tissue.

95. (Previously presented) The treatment kit of claim 92, wherein the donor cells have an origin chosen from the group of origins consisting of the pituitary gland, hypothalamus, adrenal gland, adrenal medulla, fat cells, thyroid, parathyroid, pancreas, testes, ovary, pineal gland, adrenal cortex, liver, renal cortex, kidney, thalamus, parathyroid gland, ovary, corpus luteum, placenta, small intestine, skin cells, stem cells, gene therapy, tissue engineering and cell culture.

96. (Previously presented) The treatment kit of claim 92, further comprising growth factor injectable into the intervertebral disc.

97. (Previously presented) The treatment kit of claim 92, wherein the donor cells are capable of creating a therapeutic product.

98. (Previously presented) The treatment kit of claim 92, wherein the donor cells are capable of creating a product chosen from the group of biosynthesized products consisting of adrenaline, adrenocorticotropic hormone, aldosterone, androgens, angiotensinogen (angiotensin I and II), antidiuretic hormone, atrial-natriuretic peptide, calcitonin, calciferol, cholecalciferol, calcitriol, cholecystokinin, corticotropin-releasing hormone, cortisol, dehydroepiandrosterone, dopamine, endorphin, enkephalin, ergocalciferol, erythropoietin, follicle stimulating hormone, γ-aminobutyrate, gastrin, ghrelin, glucagon, glucocorticoids, gonadotropin-releasing hormone, growth hormone-releasing hormone, human chorionic gonadotrophin, human growth hormone, insulin, insulin-like growth factor, leptin, lipotropin, luteinizing hormone, melanocyte-stimulating hormone, melatonin, mineralocorticoids, neuropeptide Y, neurotransmitter,

noradrenaline, oestrogens, oxytocin, parathyroid hormone, peptide, pregnenolone, progesterone, prolactin, pro-opiomelanocortin, PYY-336, renin, secretin, somatostatin, testosterone, thrombopoietin, thyroid-stimulating hormone, thyrotropin-releasing hormone, thyroxine, triiodothyronine, trophic hormone, serotonin, and vasopressin.